June 2, 1931. **E. CHESHIRE** 1,807,896

VISE

Filed July 25, 1927

Fig. 1.

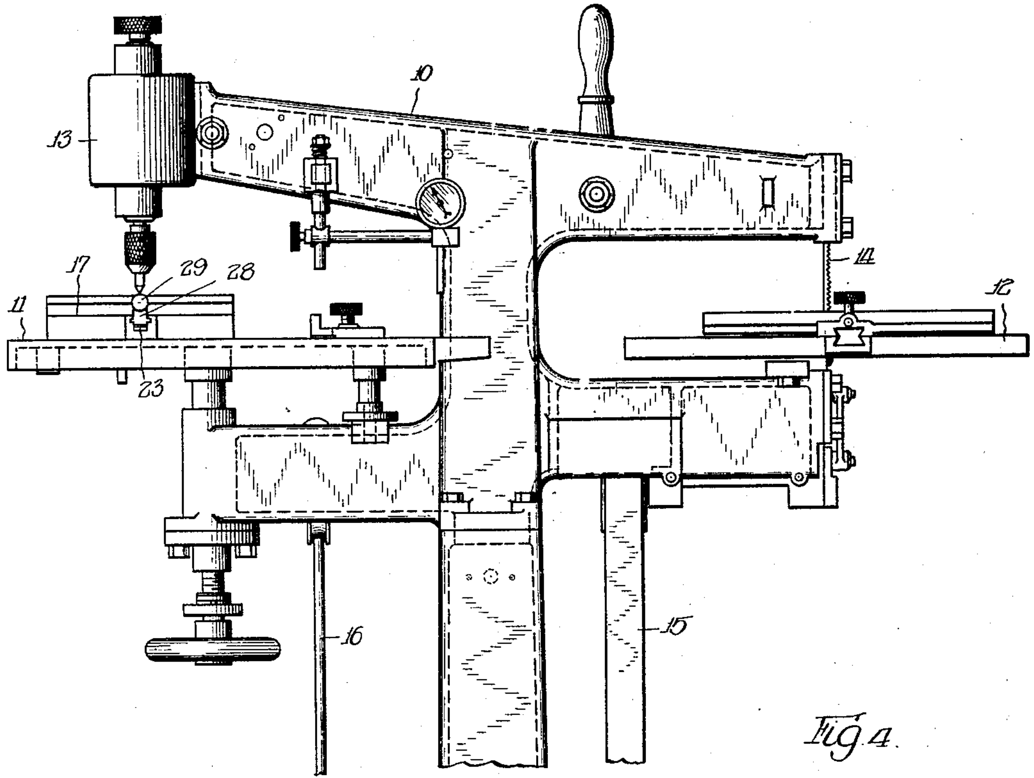


Fig. 2.

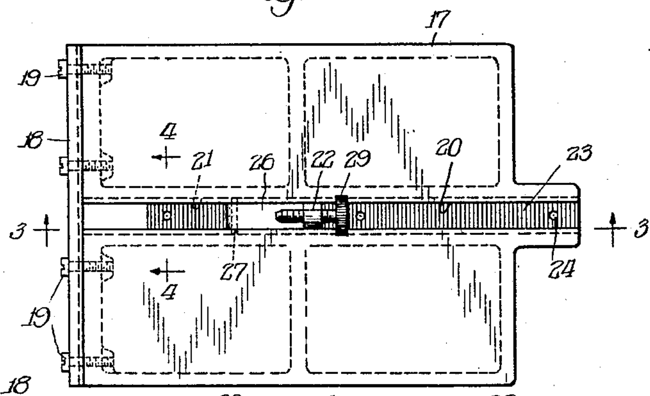


Fig. 4.

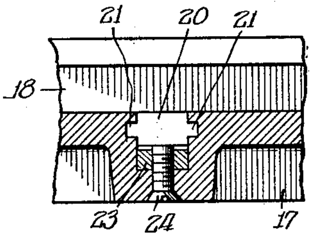


Fig. 5

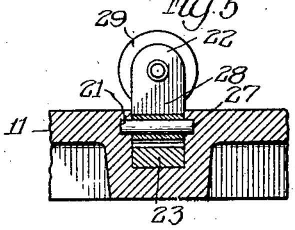
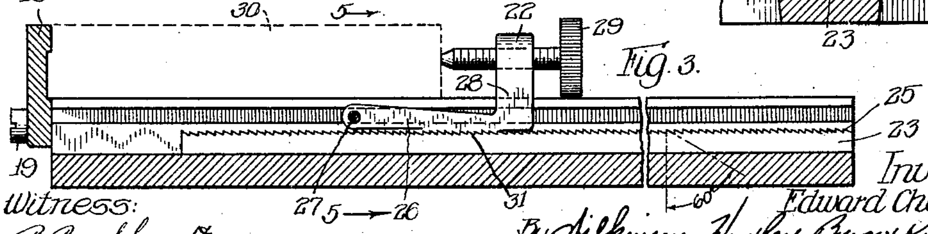


Fig. 3.



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UNITED STATES PATENT OFFICE

EDWARD CHESHIRE, OF ST. PETERSBURG, FLORIDA

VISE

Application filed July 25, 1927. Serial No. 208,077.

The invention pertains to a vise and more particularly to an article adapted to secure material in position so that the article or holding unit may be used to guide said material into operating position in various machines or devices.

It is an object of this invention to provide a portable device of such character as will hold material in fixed position with reference to said device.

Another object is to provide a device for holding material, the securing means being of such character as cannot be accidentally loosened.

A further object is to provide a device which is inexpensive to make and maintain, and is portable and readily adapted to secure material for type-high or other operations where such material is to be affected by machine operations.

A still further object is to provide a holding means in the form of a table member having adjustable securing means for the ready adaptation to material of any size, shape or character.

Other further and more specific objects will readily occur from the detailed description, claims and drawings appended hereto.

In the drawings, wherein like reference characters are used to designate like parts—

Figure 1 is a side elevation, illustrating the holding device as applied to a router, jig-saw and type-high machine;

Figure 2 is a plan of the assembled holding device;

Figure 3 is an enlarged broken sectional elevation of the holding device taken substantially on the plane as indicated by the line 3—3 of Figure 2, the dotted lines being used to indicate material held in operating position;

Figure 4 is a fragmentary enlarged sectional elevation taken substantially on the plane as indicated by the line 4—4 of Figure 2; and

Figure 5 is a fragmentary enlarged sectional elevation taken substantially on the plane as indicated by the line 5—5 of Figure 3.

In subjecting material to operation in a machine such as the router, jig-saw and type-high machine 10, it often becomes necessary for this material to be moved with respect to the operating tools, and it is for this purpose that the holding device taking the form of a plate holder is employed. The router, jig-saw and type-high machine 10 is provided with a router table 11, saw table 12, a motor and chuck 13, and a jig-saw 14, all selectively operated by means of mechanism set in motion by the belt 15 from any convenient source, such as an electric motor, said parts being controlled from pedal controlled means 16, the details of this machine being more particularly described in co-pending application Serial No. 196,196, filed June 3, 1927, Cheshire.

The plate holder 17, preferably of metal and of a convenient size, is provided with an end plate 18 secured thereto by suitable means, such as the screws 19, and said plate holder is provided with a longitudinally extending channel 20, preferably placed on the longitudinal center line of said plate holder and disposed normally with respect to the end plate. It will be noticed that this channel 20 has channels 21 disposed below the plane of the top of the plate holder, such channels forming guideways for a vise jaw 22. A rack 23 is secured in the channel 20 by suitable means such as the screws 24, said rack being disposed wholly below the channels 21. The rack is provided with teeth 25 which toe toward the end plate and have suitable locking and sloping portions, the angle therebetween being substantially 60°.

The vise jaw 22 comprises a leg 26 provided at one end thereof with a transverse pin 27 adapted to have pivotal sliding motion with respect to the channels 21, a portion of said leg 26 being provided with teeth 31 corresponding in shape and adapted to cooperate with the teeth 25 but toeing in an opposite direction. Said vise jaw is provided with an upstanding threaded leg 28 extending substantially at right angles to the leg 26, being adapted to support and have threaded engagement with a set screw 29, said set screw being adapted to wedge material 30 between the vise 22 and the end plate 18. The channels 20 and 21 are preferably open ended, one of said ends being closed by the end plate 18, the other being preferably open so that the vise jaw 22 may be readily applied or removed.

It will be appreciated then that work 30 may be applied to the plate holder 17, one end of said work abutting the end plate 18. The vise jaw 22 is slid in the channel toward the work 30 and teeth 31 are let into contact with the teeth 25. The thumb screw 29 is then tightened so that the work 30 is wedged between the end plate 18 and the vise jaw 22, and it will be noted that due to the shape of the teeth, the vise jaw cannot slip away from the work though the teeth are so shaped that they may be moved over each other toward the work. It will also be noticed that as the pin 27 is removed from the end of the work abutting portion of the thumb screw 29 and preferably extends under a portion of the work, that there can be no relative movement between the vise jaw and said work as to remove the vise jaw there must be a rotation around the pin 27. This, then, prevents any accidental freeing of the work due to the fact that the vise jaw cannot be jarred from the rack 20, it being first necessary to slacken the set screw to free the vise jaw. It will be appreciated that the plate holder and the work may be manipulated as a unit in any machine, such as the machine 10 illustrated, there then being no danger of losing any of the work 30 especially when said work is made up of separate slugs, the whole unit being readily adapted to be removed from one table to another table or from one machine to another machine for operation.

It is to be understood that I do not wish to be limited by the exact embodiment of the device shown as other and various forms of the device will readily occur to those skilled in the art.

I claim:

1. A work holder, comprising, in combination, a support having a channel formed therein, the side walls of said channel being recessed to provide runways, a supporting pin adapted to slide in said runways, a work clamping device connected to the supporting pin and adapted to travel therewith lengthwise of the channel, and means disposed within the channel for cooperating with the work clamp to prevent accidental rearward displacement thereof.

2. A vise comprising a base plate provided in its upper face with an open top channel having grooves extending longitudinally in the side walls of the channel, an upstanding fixed jaw extending across the base plate transversely of the channel and projecting at opposite sides thereof, a movable jaw having a base slidably mounted in the channel and provided with an upstanding arm rising through the open top of the channel, the base of the movable jaw being provided with trunnions slidable in the grooves and upon which the movable jaw may be swung vertically, the bottom of the channel having teeth, and the bottom of the base of the movable jaw having teeth for selective engagement with the teeth of the channel.

3. A vise comprising a base plate provided at its upper face with an open top channel intersecting opposite edges of the base plate, the side walls of the channel being provided with longitudinal grooves, an upstanding fixed jaw secured to one edge of the base plate and extending transversely across one end of the channel, a movable jaw having a base slidably mounted in the channel and provided with an upstanding arm rising through the open top of the channel, the base of the movable jaw being provided with trunnions slidable in the grooves and upon which the movable jaw may be swung, said movable jaw being insertable and removable through the open end of the channel opposite the fixed jaw, the bottom of the channel having teeth, the bottom of the movable jaw having teeth for selective engagement with the teeth of the channel, and a set screw carried by the upstanding arm of the movable jaw in substantial parallelism with the base plate.

Signed at St. Petersburg, Florida, this 20th day of July, 1927.

EDWARD CHESHIRE.